

Chapter 6: Using information databases

Meridian IVR has a built-in database facility that can be very useful in building applications. This database can store data in the form of character strings that you can use as part of your application.

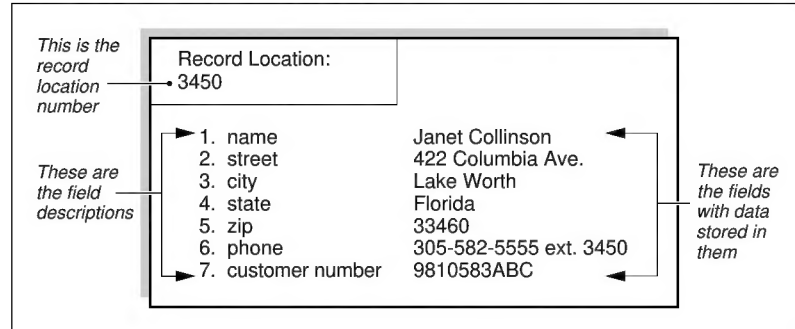
You can create information databases with the Meridian IVR System Database Editor, one of the five interfaces of Meridian IVR. This chapter provides procedures for creating a new information database and for editing an existing information database:

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Understanding information databases

Each information database consists of a set of records. Figure 6-1 illustrates a single record. A record consists of up to ten fields, each of which can store up to 31 characters including letters, numbers, spaces, or any of the other characters that you can type on a keyboard, except for commas.

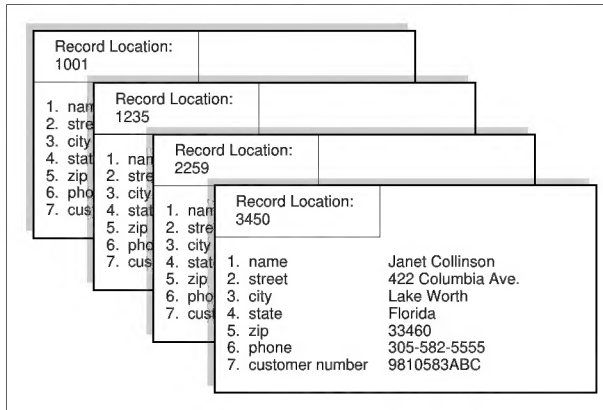
Figure 6-1
An example of a record in a database



Each field can have a field description to keep track of the types of data that the information database stores. Every record in a particular information database has the same set of field descriptions.

Because an information database can have many records, each record has an identification number called a record location number (see Figure 6-2.) The information database is designed to associate the information in a record with this number. Although the information database can use any number as the record location number, it generally uses a telephone number.

Figure 6-2
A series of records in an information database



Using an information database

You can use the Check Database (CHEK) cell to manipulate database records. When you create a CHEK cell, you identify the information database from where you extract data, and the buffers where you place the data. You can create applications that use the CHEK cell to extract data and make it available to other cells in the application.

In addition, you can use the CHEK cell to determine whether a record exists for the record location number in a specific information database. If the record does not exist, the CHEK cell branches to the “not found” next cell. If the CHEK cell finds the record you specify, it automatically copies information from the record to the buffers within the application. Once this information becomes available to the application, it can be used by the application.

The CHEK cell type has three parameters:

Database name The name of the database that CHEK verifies.

Record location number The record location number of the specific record in the database.

Number of output buffers The number of buffers that the CHEK cell needs to copy data from the record you specify. For example, if the record has three fields, the CHEK cell needs three output buffers to retrieve and copy the information.

Parameters

Parameter	Assigned value
Database name	customers
Record location number	customer number
Number of output buffers in buffer table	7

The CHEK cell lists the output buffers in the Output Buffer Table:

BUFFERS	
NAME	
ADDRESS	
CITY	
STATE	
ZIP CODE	
DATA1	
DATA2	

You have an information database called “customers”, and record location number 2976 stores the data shown in Figure 6-3.

Figure 6-3
Sample database record

Record Location: 2976	
1. name	Jane Goodcustomer
2. street	19 Avenue Road
3. city	Cleveland
4. state	NINTH
5. zip	58041
6. customer number	3912
7. work phone	216-660-9077
8. home phone	216-571-1043
9.	
10.	

When you run this application, the CHEK cell verifies that the customer's database exists, looks for record number 2976, and copies data from the record into its output buffers. Copying begins with the first field and ends when all of the output buffers have been used. When the CHEK cell finishes copying the data, the output buffers contain the following data:

Buffer Contents

Buffer	Contents
NAME	Jane Goodcustomer
ADDRESS	19 Avenue Road
CITY	Cleveland
STATE	Ohio
ZIP CODE	58041
DATA1	3912
DATA2	216-660-9077

Notice that the data from the “home phone” field is not copied from the record to the buffers. Since you have specified only seven output buffers, the CHEK cell copies data from only the first seven fields. The copying process does not alter the information database itself.

Once the CHEK cell has copied the data into the buffers, the application can use that data in any of the ways that applications use buffer data. For example, there can be a Play Prompts with Data (PDAT) cell that reads the phone number stored in the DATA2 buffer to the caller.

Building information databases

Before you begin working with the Database Editor, you should first build an information database.

Note: You can create more than one information database depending on how much disk space you have. However, Meridian IVR applications can use only up to 20 databases at the same time.

The following are guidelines you need to consider when creating a database:

Decide what information you want to store. As already explained, each record has ten fields. Each field can store up to 31 characters. Characters can be letters, numbers, or characters that you can type on a keyboard, except for commas.

Although you do not need field descriptions for your records, we recommend that you use them because they remind you about the types of information stored in the database.

Each record has the same set of field descriptions.

If you want to have an application, use the stored information and plan the application. You can build the application either before or after you create the database.

Choose the number of significant digits which is the maximum number of digits in the record location number. (If you would like to review record location numbers, return to Figure 6-2.)

The name of the database can be up to eight characters long and can include any characters except for spaces, asterisks, pound signs, and question marks.

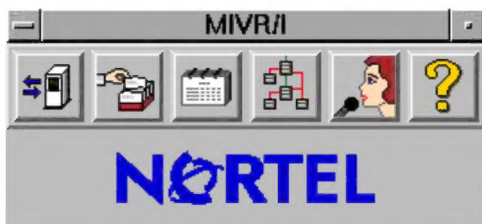
System Database Editor

Procedure 6-1

Opening the Database Editor

- 1 On the Meridian IVR main menu, click on the database icon (second from the left) with the left mouse button (see Figure 6-4).

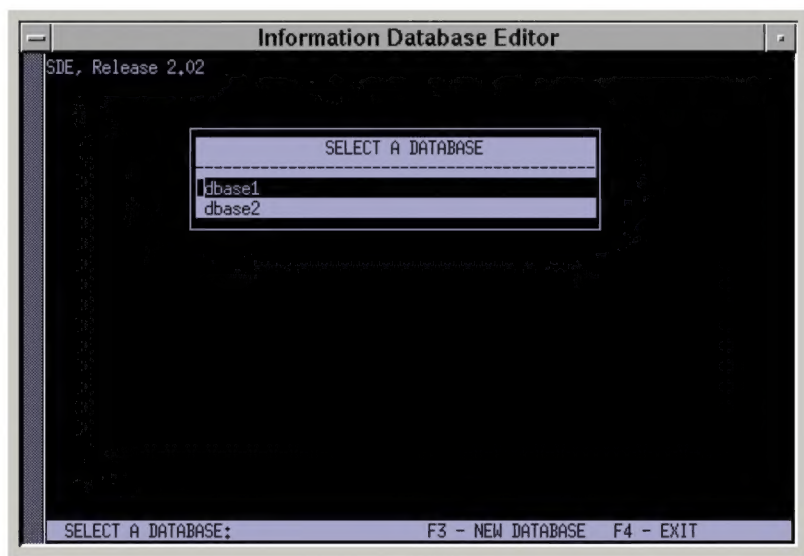
Figure 6-4
Meridian IVR GUI main menu



- 2 Select Information Database Editor from the pull-down menu.

Meridian IVR displays the Database Editor main menu as illustrated in Figure 6-5.

Figure 6-5
Database Editor



In this and all other Database Editor windows, the arrow keys work as follows:

<Up Arrow> Moves the cursor up one line.

<Down Arrow> Moves the cursor down one line.

<Left Arrow> Moves the cursor to the top of the page.

<Right Arrow> Moves the cursor to the bottom of the page.

When you press <Enter>, you select the item at the cursor.

Procedure 6-2
Creating the database

- 1 From the Database Editor main menu, press <F3> for New Database.

You see the following prompt:

Enter The Name Of The Database:

- 2 Type the database name and press <Enter>.

Note: A message or information database name can be up to eight characters long and can include any characters except for spaces.

You see the following prompt:

Enter The # Of Digits (between 4 and 11, inclusive): 4

- 3 Type any value from 4 to 11 and press <Enter> to enter the new value, or press <Enter> to accept the default value 4.

In this procedure, you select the *number of significant digits* for this database. For an information database, the number of significant digits is *the maximum number of digits in the record location number*.

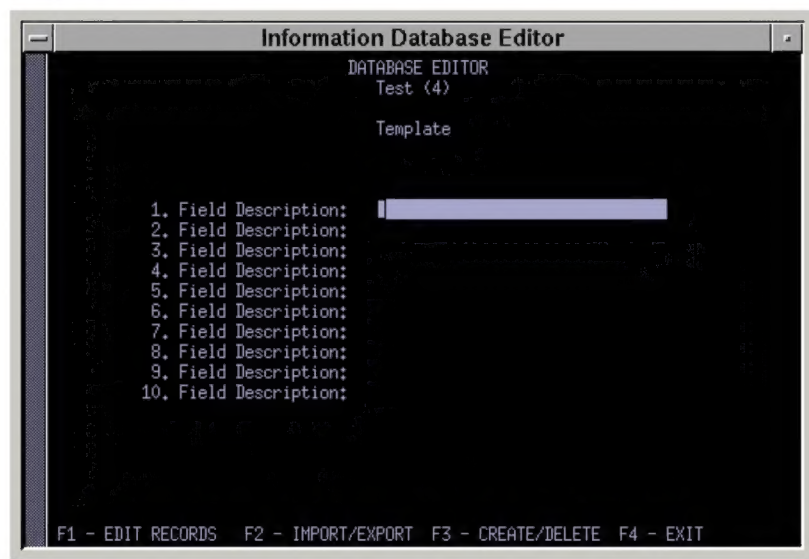
Usually, record locations are associated with DID digits, and DID channels are usually configured to receive four digits, so the number of significant digits is very often four.

If you need information on channel types, see the *Meridian IVR System Administration Guide* (NTP 555-9001-300), or consult your system administrator.

Note: Be careful when choosing the number of significant digits because once the number has been chosen, it cannot be changed.

The Database Editor displays the Template screen illustrated in Figure 6-6.

Figure 6-6
Template screen



You can use this screen to go to an already existing record or create a template as explained in the next section. To go to an existing record, press <F1>.

Creating the template

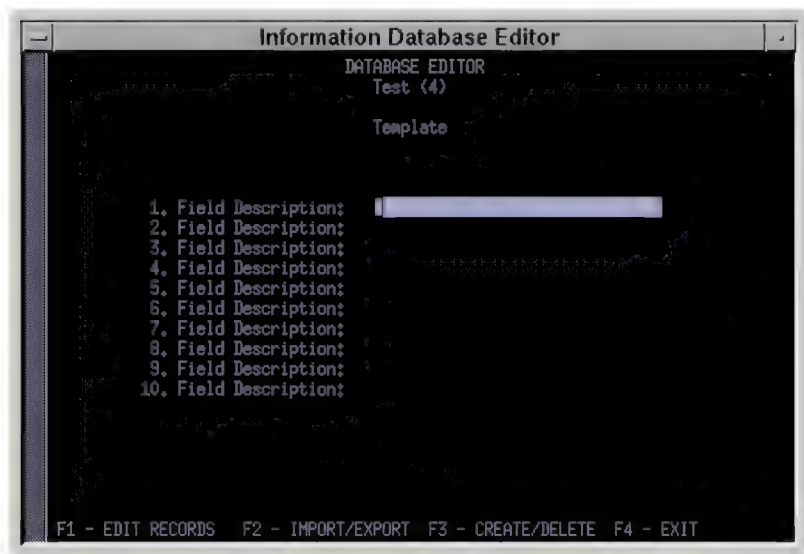
After you name the database and choose the number of significant digits, you can create a template for the database as illustrated in Figure 6-7. The template is the set of field descriptions for the records in the database.

Figure 6-7
Example of a template for a database

Record Location: ----- •	
1. name 2. street 3. city 4. state 5. zip 6. phone 7. customer number 8. 9. 10.	<i>This database has 4 significant digits</i> <i>These are the field descriptions</i>

The name of the database appears on the template screen. The number of significant digits appears in parentheses next to the database name. In the template window shown in Figure 6-8, the name of the database is "TEST" and the number of significant digits is 4.

Figure 6-8
Template for database “TEST”



Procedure 6-3
Creating the template

- 1 Move the cursor to where you want a field description, then type the description.

Field descriptions can have up to 31 characters and include any characters you type on the keyboard, except for commas.

If you begin or end a field description with blanks, those blanks are removed.

If you make a mistake, press the <Backspace> key to delete the characters.

- 2 After you type a field description, press <Enter>, <Tab>, or the <Down> arrow key.

The cursor advances to the next field.

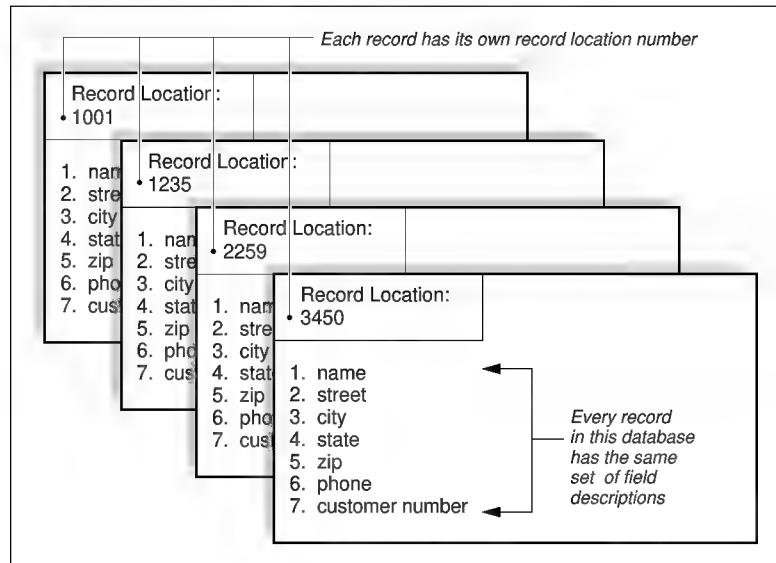
- 3 Repeat steps 1 and 2 until you have entered all of your field descriptions.

Now you are ready to create record locations.

Creating record locations

After you have created the template, you can create record locations. For every record location you create, you have one record as illustrated by Figure 6-9. When you create the database, you select a value for the number of significant digits that determines the length of the record location number. For example, if the number of significant digits is 4, then the record location numbers can be any numbers from 0 to 9999.

Figure 6-9
Record location numbers

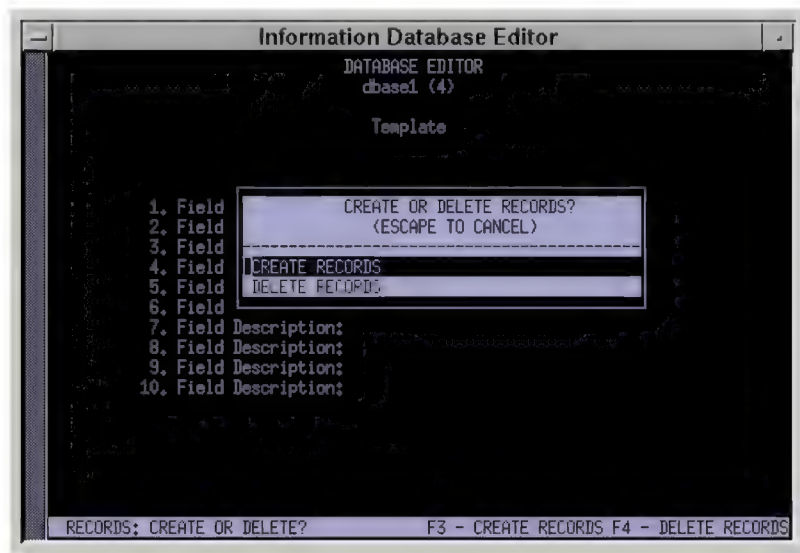


Procedure 6-4 Creating record locations

- 1 Press <F3>.

The Database Editor displays a pop-up window that asks you to indicate whether you want to create or delete a record (See Figure 6-10).

Figure 6-10
Create/delete record pop-up menu



- 2 Select "Create a Record".

You see the following prompt:

Enter Record To Create:

- 3 Type a number for a single record location, or type a range of numbers.
To enter a range, type the beginning number, a hyphen, and an ending number.

For example, to enter the numbers from 1 to 2000, type the following without spaces:

1-2000

- 4 After you have typed the number or numbers, press <Enter>.

The Database Editor creates the record location(s) and the message disappears.

- 5 Repeat steps 1–3 to create as many record locations as you need.

Deleting record locations

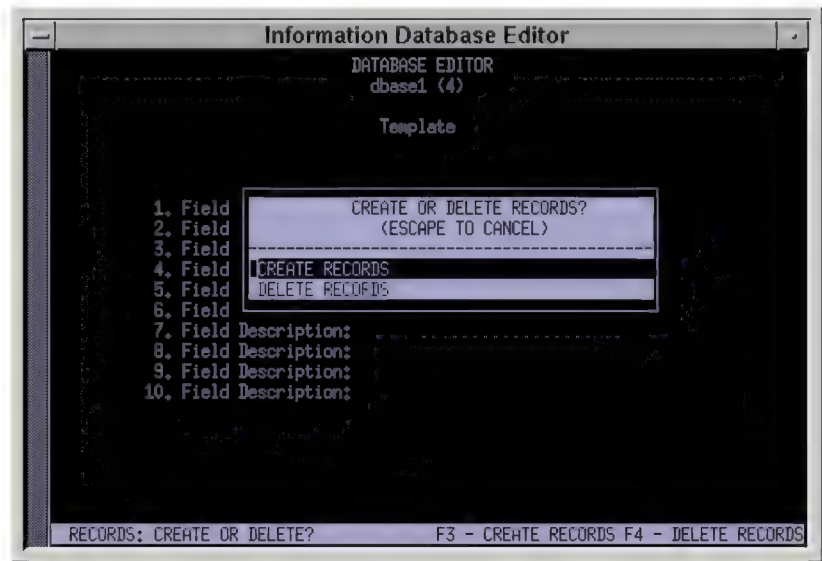
When you delete the record location, the system erases the data stored at that location.

Procedure 6-5 Deleting record locations

- 1 From the Template screen, press <F3> for CREATE/DELETE.

A pop-up menu appears as shown in Figure 6-11.

Figure 6-11
Create/delete record prompt menu



- 2 Select DELETE RECORDS.

The system displays the following prompt:

Enter Record to Delete:

- 3 Type the number of the record location you want to delete, or a range of numbers for more than one record, then press <Enter>.

The system deletes the record location(s).

If the system cannot delete the record(s), the system will give you an error message.

If the system successfully deletes the record(s), the template screen for the database re-appears (see Figure 6-8).

Adding or updating data

Once you have created record locations, you can add data in the locations. You can update the data at any time, even when other applications are using the database. Figure 6-12 illustrates a series of records with stored data.

Figure 6-12
Records with stored data

The diagram illustrates four overlapping record templates for a database. Each template has a header section for the record location and a list of fields. The template for Record Location 3450 is the largest and contains the actual stored data for a customer named Janet Collinson.

Record Location:	
1001	
1. name	
2. street	
3. city	
4. state	
5. zip	
6. phone	
7. customer number	

Record Location:	
1235	
1. name	
2. street	
3. city	
4. state	
5. zip	
6. phone	
7. customer number	

Record Location:	
2259	
1. name	
2. street	
3. city	
4. state	
5. zip	
6. phone	
7. customer number	

Record Location:	
3450	
1. name	Janet Collinson
2. street	422 Columbia Ave.
3. city	Lake Worth
4. state	Florida
5. zip	33460
6. phone	305-582-5555 ext. 3450
7. customer number	9810583ABC

This is stored data



CAUTION!

Risk of lost data

If you try to update one field in a record from a blank template, the system updates that one field but the other fields are blanked out. This causes you to lose the entire record.

To avoid this, load the record in the database, modify the field, then save the record.

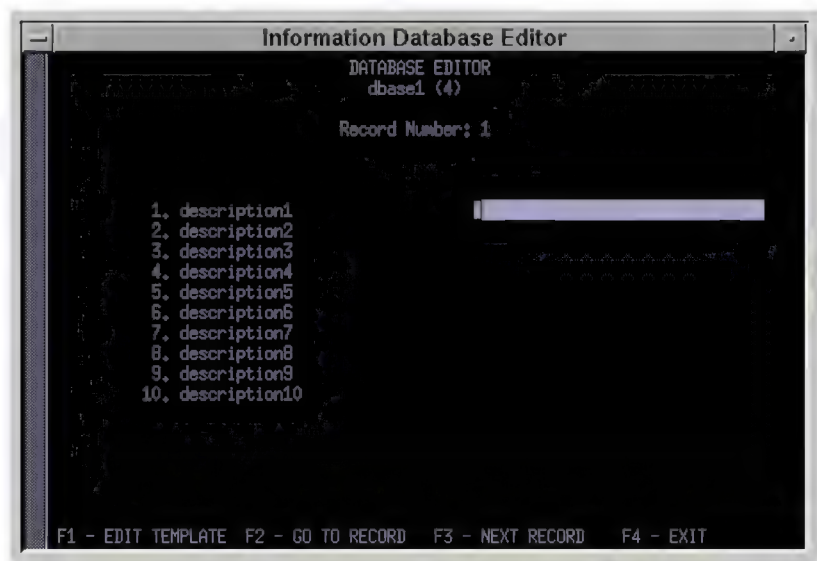
Procedure 6-6

Adding or updating data

- 1 From the Template screen, press <F1> for Edit Record.

You see the Record Location screen that corresponds to the lowest existing record location number (see Figure 6-13).

Figure 6-13
Adding and changing data in the record location



2 If necessary, press <F2> for GO TO RECORD to display the screen corresponding to another record. (This procedure is discussed in the next section.)

3 Use the arrow keys to move the cursor to any field, then type in the information you want to store.

If there was already information in that field, it disappears when you begin to type.

If you make a mistake, press <Backspace> to delete characters.

4 When you have finished typing the information, press <Enter>.

Note: You cannot export a database with more significant digits to a database with less significant digits.

Changing record locations

You can change record locations at any time but only when the Record Location screen appears. Figure 6-13 shows the Record Location screen with the current record location listed on the third line.

You can change the record location in two ways:

- going to the next consecutive location
- going to a specific location

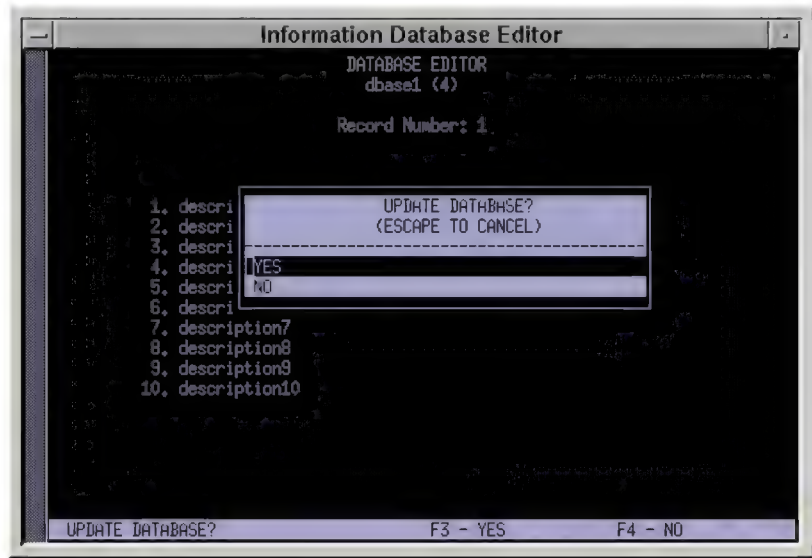
Procedure 6-7

Going to the next record location

1 From the Record Location screen, press <F3> for Next Record.

If you change the data at the current record location, the Update Database pop-up menu appears, as shown in Figure 6-14.

Figure 6-14
Update Database pop-up menu

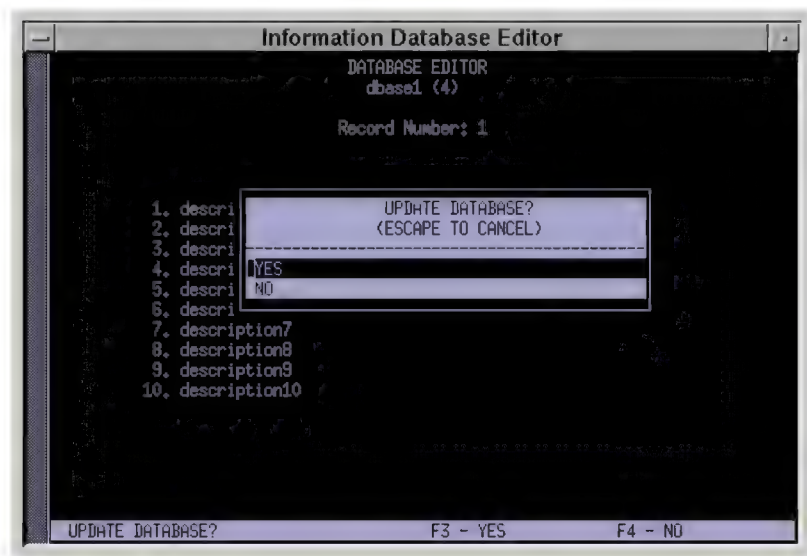


- 2 If you want to save your current changes, move the cursor to YES.
 If you do not want to save your changes, move the cursor to NO.
- 3 Press <Enter>.
You go to the next consecutive record location.
If you were on the last location, you go to the first location.
The record location number appears at the top of the screen.

Procedure 6-8
Going to any other record number

- 1 From the Record Location screen, press <F2> for Go To Record.
If you change the data at the current record location, the Update Database pop-up menu appears as shown in Figure 6-15.

Figure 6-15
Update Database pop-up menu (continued)



- 2 If you want to save your current changes, move the cursor to YES.
If you do not want to save your changes, move the cursor to NO.

- 3 Press <Enter>.

You see the following prompt:

Enter Record:

- 4 Type a number for a single record location, or type a range of numbers and press <Enter>.

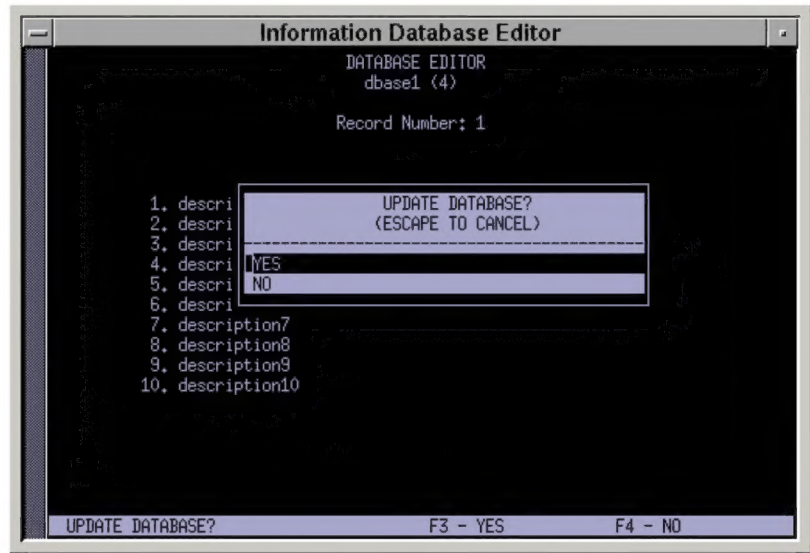
The record location(s) appears at the top of the screen.

Procedure 6-9 **Exiting the database**

- 1 From the Record Location screen, press <F4>.

If you change the data at the current record location, the Update Database pop-up menu appears again as shown in Figure 6-16.

Figure 6-16
Update Database pop-up menu (end)



- 2 If you want to save your most recent changes to the database, move the cursor to YES and press <Enter>.

The system saves your changes then takes you back to the Database Editor main menu.

If you want to exit without saving the most recent changes, move the cursor to NO and press <Enter>.

The system takes you back to the Database Editor main menu.

Opening a database

You can open a database and edit it at any time, even when it is being used by an application.

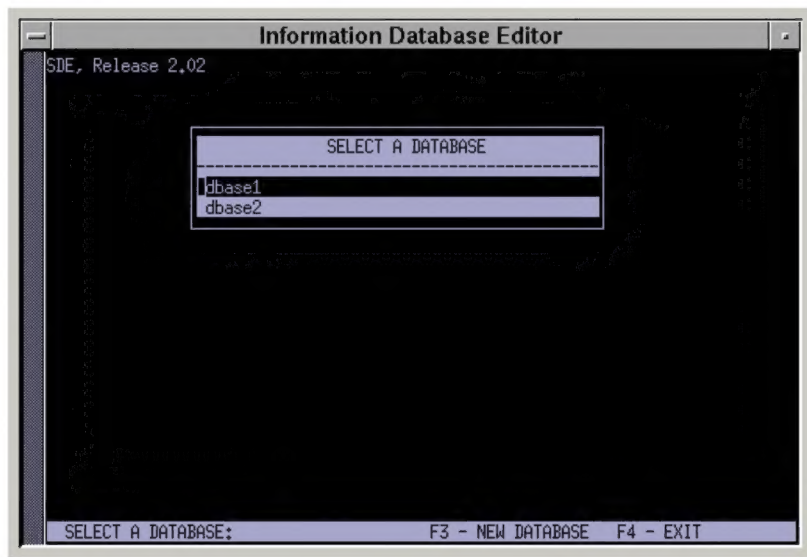
Note: You cannot load a database, you can only select an existing database or create a new one.

Procedure 6-10
Opening a database

- 1 From the Database Editor main menu, as shown in Figure 6-17, move the cursor with the arrow keys to the name of the database you want to open, then press <Enter>.

The system opens the database and displays the Edit Record screen for the lowest-numbered record location.

Figure 6-17
Selecting a database from the Database Editor



Editing the template

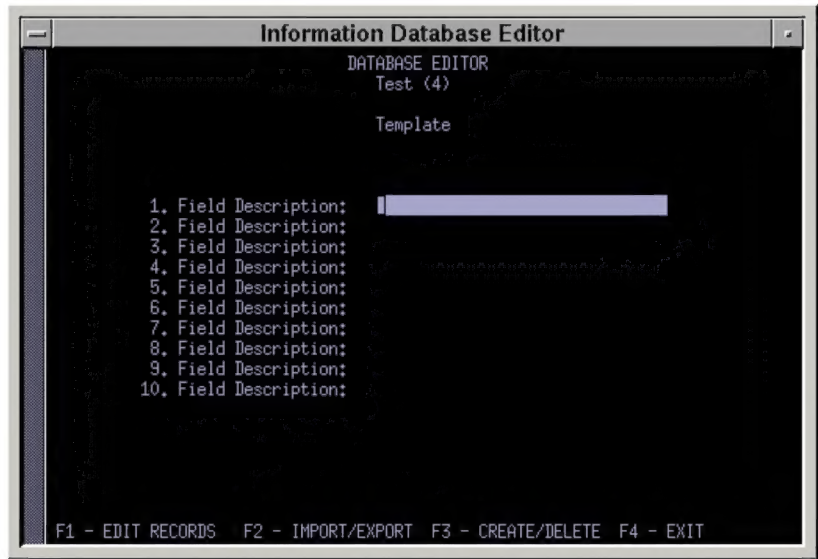
You can edit the template by changing one or more field descriptions.

Procedure 6-11
Changing a field description

- 1 From the Record Location screen, press <F1> for Edit Record.

The Template screen appears as shown in Figure 6-18.

Figure 6-18
Editing the template



- 2 Move the cursor with the arrow keys to the field you want to change, then type in a new description.

The field description changes.

Deleting a database

You must be in the UNIX shell to delete a database.

Procedure 6-12

Deleting a database from the UNIX shell

- 1 Change to the directory `/u/ivr/sys_files`.
- 2 Enter the following command: **rm dbname**, and press <Enter>.



CAUTION!

Risk of losing system files

If you have two databases named *db* and *db1.ext*, you can type **rm db*.*** to delete both files at the same time.

The first asterisk represents any character(s) that follow the file name. The second asterisk represents the extension.

We recommend that you do not perform this procedure. However, if it is necessary, do not type a space between the database name and *.* otherwise, not only will you erase the database named *db*; you will also erase system files that have extensions.